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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|----------------------|----------------------|---------------------|------------------|
| 10/780,488 | 02/17/2004 | Steven G. Goebel | GP-304183 | 1553 |
| CARY W. BRO | 7590 04/23/200° | EXAMINER | | |
| General Motors Corporation | | | YUAN, DAH WEI D | |
| Legal Staff, Mail Code 482-C23-B21 P.O. Box 300 | | | ART UNIT | PAPER NUMBER |
| Detroit, MI 482 | 65-3000 | | 1745 | |
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| SHORTENED STATUTOR | Y PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE | |
| 31 D | AYS | 04/23/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | Application No. | Applicant(s) | $-\iota$ | | |
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| Office Action Summary | | | | | | |
| | | 10/780,488 | GOEBEL, STEVEN G. | | | |
| | once Action Gammary | Examiner | Art Unit | | | |
| | TI MAN INO DATE AN | Dah-Wei D. Yuan | 1745 | | | |
| Period fo | The MAILING DATE of this communication app or Reply | ears on the cover sheet wit | h the correspondence address | | | |
| WHIC - Exte after - If NC - Failu Any | ORTENED STATUTORY PERIOD FOR REPLY CHEVER IS LONGER, FROM THE MAILING DANSIONS of time may be available under the provisions of 37 CFR 1.13 SIX (6) MONTHS from the mailing date of this communication. Operiod for reply is specified above, the maximum statutory period were to reply within the set or extended period for reply will, by statute, reply received by the Office later than three months after the mailing ed patent term adjustment. See 37 CFR 1.704(b). | ATE OF THIS COMMUNIC 36(a). In no event, however, may a re vill apply and will expire SIX (6) MONT, cause the application to become AB, | ATION. ply be timely filed THS from the mailing date of this communication. ANDONED (35 U.S.C. § 133). | | | |
| Status | | | | | | |
| 1) | Responsive to communication(s) filed on | | | | | |
| <i>'</i> | • | action is non-final. | | | | |
| 3) | | | | | | |
| , | closed in accordance with the practice under E | - | • | | | |
| Disposit | ion of Claims | | | | | |
| 4\\\X\ | Claim(s) 1-27 is/are pending in the application. | · | • | | | |
| • | 4a) Of the above claim(s) is/are withdraw | | | | | |
| | Claim(s) is/are allowed. | William Consideration. | | | | |
| · - | Claim(s) is/are rejected. | | | | | |
| • | Claim(s) is/are objected to. | | | | | |
| · | Claim(s) 1-27 are subject to restriction and/or e | election requirement. | | | | |
| Applicat | ion Papers | | | | | |
| _ | The specification is objected to by the Examine | r | | | | |
| | The drawing(s) filed on is/are: a) acce | | ov the Evaminer | | | |
| .0/ | Applicant may not request that any objection to the | | | | | |
| | Replacement drawing sheet(s) including the correct | • | • | | | |
| 11) | The oath or declaration is objected to by the Ex | | | | | |
| • | under 35 U.S.C. § 119 | | | | | |
| - | Acknowledgment is made of a claim for foreign | priority under 25 H C C S | 110(a) (d) as (5) | | | |
| • | ☐ All b)☐ Some * c)☐ None of: | priority under 35 U.S.C. 9 | 119(a)-(d) or (f). | | | |
| a) | 1. Certified copies of the priority documents | s have been received | | | | |
| | 2. Certified copies of the priority documents | | unlication No | | | |
| | 3. Copies of the certified copies of the prior | • | · | | | |
| | application from the International Bureau | • | eceived in this ivational stage | | | |
| · * § | See the attached detailed Office action for a list | , , , , | eceived | | | |
| | | | | | | |
| Attach | *(a) | | | | | |
| Attachmen 1) Notice | e of References Cited (PTO-892) | 4) Intension S | ummary (PTO-413) | • | | |
| 2) Notice | e of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s | /Mail Date | | | |
| | mation Disclosure Statement(s) (PTO/SB/08) | · <u>—</u> | formal Patent Application | | | |
| Pape | r No(s)/Mail Date | 6) | - • | | | |

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Art Unit: 1745

FUEL CELL SHUTDOWN AND STARTUP USING A CATHDOE RECYCLE LOOP

Examiner: Yuan S.N. 10/780,488 Art Unit: 1745 April 18, 2007

Election/Restrictions

- 1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, drawn to a method of shutting down an operating fuel cell system,
 classified in class 429, subclass 13.
 - II. Claims 11-14, drawn to a method of starting a fuel cell system, classified in class429, subclass 13.
 - III. Claims 15-17, drawn to a device comprising at least one fuel cell, classified in class 429, subclass 34.
 - IV. Claims 18-27, drawn to a method of transiently operating a fuel cell system, classified in class 429, subclass 13.

The inventions are distinct, each from the other because of the following reason:

2. Inventions I, II and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation. Invention I discloses a method of shutting down an operating fuel cell system comprising decoupling the anode from the fuel source. Invention II disclosed a method of starting a fuel cell system comprising filling the anode with fuel.

Invention IV discloses a method of transiently operating a fuel cell system comprising selecting from one of two transient operating modes.

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3. Inventions I,II,IV and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). As admitted in the subject matter of the present claims the device as claimed can be practiced by four distinct methods as recited in claims 1-9,10,11-14 and 18-27, respectively.

- 4. If invention I is elected, an election of species is required. This application contains claims directed to the following patentably distinct species of the claimed invention.
- I-1, Claims 1-9, drawn to a method of shutting down an operating fuel cell system comprising a purge valve and introducing a purging fluid into the anode through the epurge valve.
- I-2, Claim 10, drawn to a method of shutting down an operating fuel cell system composing a plurality of valves and sequentially introducing a substantially oxygen-depleted fluid from at least a portion of the recirculation loop and air from the air source into the anode through the purge valve.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims is generic.

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5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

- 6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).
- 7. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan April 18, 2007

PRIMARY EXAMINER